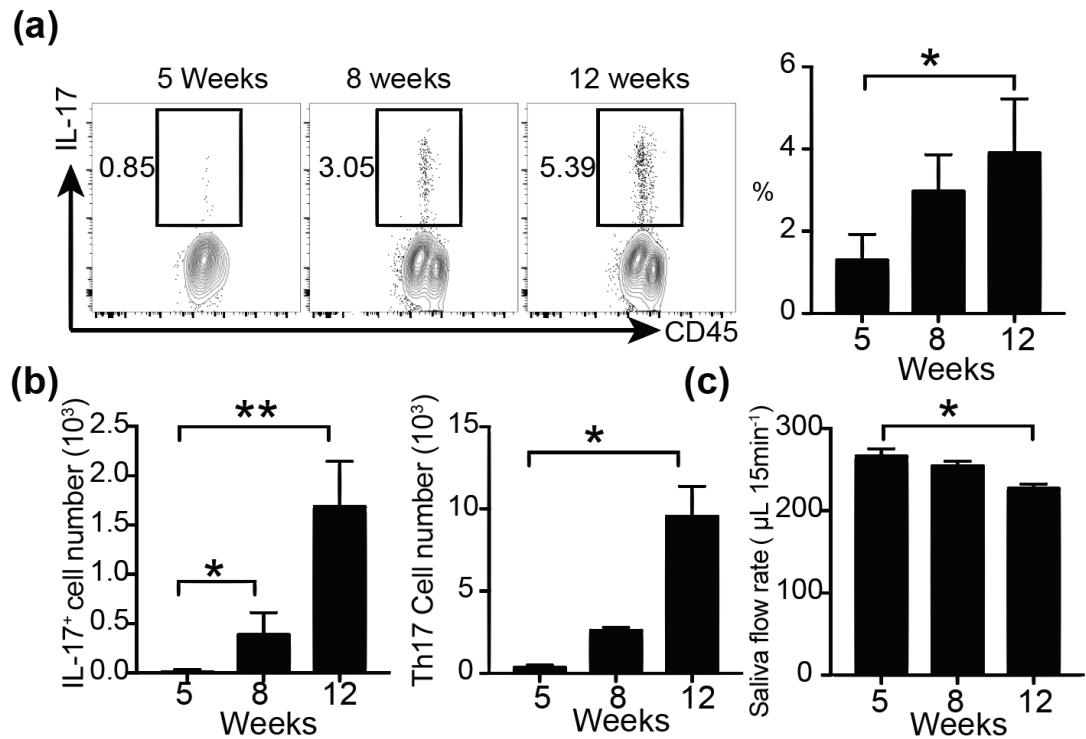
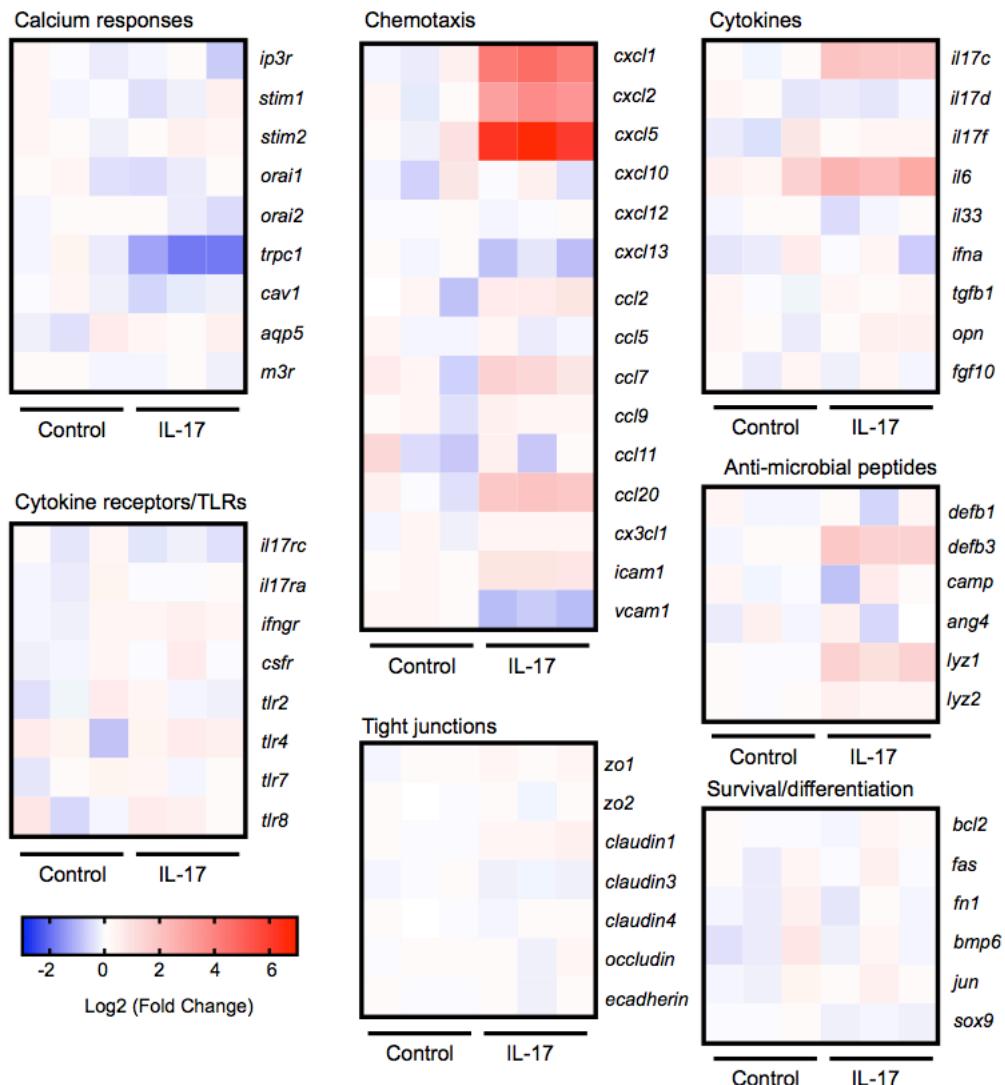


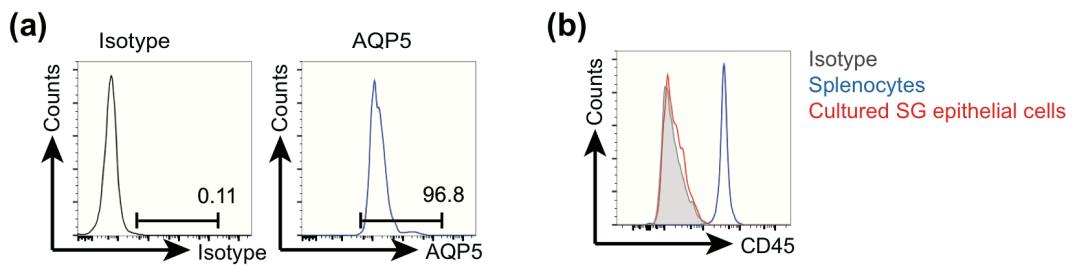
Supplementary information



Supplementary figure 1: Increased IL-17 production in SG of NOD mice. (a) SGs from NOD mice at different ages were collected. The IL-17-producing leukocytes were analyzed by flow cytometry (gated on CD45^+). (b) The numbers of total IL-17-producing leukocytes and Th17 cells were analyzed. (c) The saliva flow rates were measured. N = 3 for each group. Data are shown as mean \pm SD; * P-value < 0.05; ** P-value < 0.01; *** P-value < 0.001.



Supplementary figure 2: Effects of IL-17 on gene expression profiles in SG epithelial cells. Primary SG epithelial cells from normal mice were stimulated with or without IL-17. The heat map plot of q-PCR data on indicated genes is shown.



Supplementary figure 3: The purity of primary SG epithelial cells. A, AQP5 expression in primary SG epithelial cells were examined by flow cytometry. B, CD45 expression in primary SG epithelial cells and splenocytes (positive control) were examined by flow cytometry.



Supplementary figure 4: Salivary cannulation of trypan blue solution was performed. The red arrow indicates dark color in SG.

Supplementary table 1 Profiles of pSS patients for analysis of saliva

Patient.	Sex	Age	SFR(ml/min)	Duration (Month)	ESSDAI	ANA	Anti-SSA	Anti-SSB	Treatments
1	F	36	0.20	1	4	+	+	+	HCQ
2	F	55	0.02	24	0	+	+	-	HCQ, Prednisone
3	F	43	0.05	72	7	+	+	+	No treatments
4	F	45	0.20	60	1	+	+	-	HCQ
5	F	43	0.33	10 days	8	+	+	+	HCQ, Prednisone
6	F	37	0.13	108	4	+	+	+	HCQ
7	F	62	0.13	2	5	+	+	-	HCQ, Prednisone
8	F	65	0.40	12	10	+	+	-	Prednisone
9	F	54	0.13	60	2	+	+	-	HCQ
10	F	32	0.63	52	4	+	+	-	Methylprednisolon e, HCQ
11	F	60	0.27	72	10	+	+	-	Methylprednisolon e, HCQ
12	F	46	0.03	n/a	12	+	+	-	HCQ
13	F	37	0.40	n/a	4	+	+	-	HCQ

14	F	47	0.03	40 days	15	+	+	-	HCQ
15	F	33	0.17	n/a	n/a	+	+	-	HCQ
16	F	51	0.20	36	2	+	+	+	HCQ
17	F	38	0.03	2	5	+	+	-	HCQ
18	F	60	0.07	60	0	+	+	-	HCQ
19	F	42	0.53	60	8	+	+	+	HCQ
20	F	45	0.10	6	8	+	+	+	HCQ
21	F	61	0.67	60	1	+	+	-	HCQ
22	F	56	0.03	24	14	+	+	-	Methylprednisolon e, HCQ, Cyclosporine
23	F	67	0.07	72	4	+	+	+	No treatments
24	F	61	0.01	9	n/a	+	+	+	HCQ
25	F	54	0.03	12	n/a	+	+	-	Methylprednisolon e, HCQ, Cyclophosphamide
26	F	50	0.20	4	n/a	+	+	-	Methylprednisolon e, HCQ, Mycophenolate

									mofetil
27	F	63	0.33	72	10	+	+	-	HCQ
28	F	27	0.27	n/a	0	+	+	+	HCQ, Prednisone
29	F	52	0.13	2	0	+	+	-	HCQ
30	F	73	0.01	24	0	+	+	-	HCQ
31	F	26	0.13	n/a	2	+	+	-	No treatments
32	F	36	0.67	84	0	+	+	-	HCQ
33	F	40	0.15	20	0	+	+	-	HCQ

SS: Sjögren's syndrome; F: Female; SFR: saliva flow rates; ESSDAI: EULAR Sjögren's syndrome (SS) disease activity index; n/a, not available; HCQ: hydroxychloroquine.

Supplementary table 2 Profiles of pSS patients for analysis of labial gland biopsies

Patient	Sex	Age	SFR(ml/min)	Duration (Month)	ESSDAI	ANA	Anti-SSA	Anti-SSB	Treatments
1	F	49	0.20	36	0	+	+	+	HCQ
2	F	65	1.00	12	0	+	+	-	HCQ
3	F	26	0.30	3	4	+	+	-	Methylprednisolone, HCQ
4	F	30	0.30	3	1	+	+	+	HCQ
5	F	41	0.20	n/a	0	+	+	-	No treatments
6	F	23	0.50	1	0	+	+	-	No treatments
7	F	55	0.10	n/a	2	+	-	-	HCQ
8	F	63	0.40	n/a	8	+	+	-	HCQ
9	F	54	0.10	36	2	+	+	+	HCQ
10	F	40	0.15	24	1	+	+	+	HCQ
11	F	43	0.10	n/a	7	+	-	-	HCQ
12	F	36	0.02	1	4	+	+	+	HCQ
13	F	45	0.20	60	1	+	-	+	HCQ
14	F	62	0.13	14 days	0	+	-	-	Prednisone, HCQ

15	F	41	0.07	24	1	+	-	-	HCQ
16	F	54	0.13	60	2	+	-	-	HCQ
17	F	37	0.40	60	4	+	+	+	HCQ
18	F	47	0.03	2	15	+	+	-	HCQ
19	F	37	0.30	1	7	+	+	+	HCQ
20	F	43	0.30	96	4	+	+	+	HCQ
21	F	42	0.30	72	2	+	+	+	Methylprednisolone, HCQ
22	F	45	0.10	6	8	+	-	+	HCQ
23	F	67	0.067	72	4	+	+	+	HCQ
24	F	26	0.10	n/a	0	+	+	-	HCQ
25	F	32	0.33	4	8	+	+	+	HCQ

SS: Sjögren's syndrome; SFR: saliva flow rates; ESSDAI: EULAR Sjögren's syndrome disease activity index; n/a, not available; HCQ: hydroxychloroquine.

Supplementary table 3 Primers for Q-PCR analysis

Genes (mouse)		Sequence (5'-3')
<i>18s</i> rRNA	F	AACCCGTTGAACCCCATT
	R	CCATCCAATCGGTAGTAGCG
<i>nfkbia</i>	F	TCC AGA ATG TCC CAG TCT CC
	R	GAG TCT CAG TTT GGG GTG GA
<i>ip3r</i>	F	CAAGCAACTGCTGGAGGAGA
	R	TTCAAGCTCCTGCTCTGTGG
<i>stim1</i>	F	CTT GTC CAT GCA GTC CCC C
	R	AGG CAT GGC ATT GAG AGC TT
<i>stim2</i>	F	ATCGCTAAGGACGAGGCA
	R	AGAGGGCTTCTGGCTTCC
<i>orai1</i>	F	GATGAGCCTAACGAGCACT
	R	CCATCGCTACCATGGCGAA
<i>orai2</i>	F	GACAGTCAGGCCTGGTCCC
	R	CGGACCCAGTCTCGGTAATC
<i>trpc1</i>	F	GAT GTG TCT TTG CCC AAG C
	R	CTG GAC TGG CCA GAC ATC TAT
<i>caveolin-1</i>	F	GTAAAT GCCCCAGATGAGTGCC
	R	GTCAACCGCGACCCCAAGC
<i>aqp5</i>	F	TCA CTG GGT CTT CTG GGT AGG
	R	CTC GAT GGT CTT CTT CCG CT
<i>m3r</i>	F	ACC TGT TCA CGA CCT ACA TCA
	R	AGT GAG TGG CCT GGT AAT AGA AA
<i>il17rc</i>	F	TTCTGCGGTATTCGACTGTTCG
	R	GTCCCGGACTTCAAGACCC
<i>il17ra</i>	F	CGGAGAATTAGTCCCTGTGTTG
	R	GAACAGTCACCCATACTCCTGG
<i>ifngr</i>	F	CTTGAACCCCTGTCGTATGCTGG
	R	TTGGTGCAGGAATCAGTCCAGG
<i>csf2ra</i>	F	CAT CCT CTC GAG GCT GAG GA

	R	AGG TCC TTC CTG AGG GTC TC
<i>tlr2</i>	F	GTTTCCTTCTGACCAGGATC
	R	GCAGCATCATTGTTCTCTTC
<i>tlr4</i>	F	GCAGAAAATGCCAGGATGATG
	R	AACTACCTCTATGCAGGGATTCAAG
<i>tlr7</i>	F	GGAGAGCAACTCCAAAATCATC
	R	GAGCCACTAGCTCTCTGTG
<i>tlr8</i>	F	GGCACAACTCCCTGTGATTCA
	R	GGTGCTGTTGTTG
<i>cxcl1</i>	F	GGC GCC TAT CGC CAA TG
	R	CTG GAT GTT CTT GAG GTG AAT CC
<i>cxcl2</i>	F	CCT GGT TCA GAA AAT CAT CCA
	R	CTT CCG TTG AGG GAC AGC
<i>cxcl5</i>	F	GCA TTT CTG TTG CTG TTC ACG CTG
	R	CCT CCT TCT GGT TTT TCA GTT TAG C
<i>cxcl10</i>	F	GACGGTCCGCTGCAACTG
	R	CTTCCCTATGGCCCTCATTCT
<i>cxcl12</i>	F	CAGAGCCAACGTCAAGC
	R	AGGTACTCTGGATCCAC
<i>cxcl13</i>	F	CAGGCCACGGTATTCTGG
	R	CAGGGGGCGTAACCTGAATC
<i>ccl2</i>	F	GGC CTG CTG TTC ACA GTT GC
	R	CCT GCT GCT GGT GAT CCT CTT
<i>ccl5</i>	F	GTGCCACGTCAAGGAGTAT
	R	CTCTGGGTTGGCACACACTT
<i>ccl7</i>	F	TCAAGAGCTACAGAAGGATCACC
	R	ATAGCCTCCTCGACCCACTT
<i>ccl9</i>	F	CAGGCCGGGCATCATCTTA
	R	AGTAGCTGGCAGTTCACACC
<i>ccl11</i>	F	CCT GCT GCT TTA TCA TGA CC
	R	GAG TTT TTG GTC CAG GTG CT
<i>ccl20</i>	F	GTGGGTTTCACAAGACAGATGGC

	R	CCAGTTCTGCTTGGATCAGCG
<i>cx3cl1</i>	F	ACG AAA TGC GAA ATC ATG TGC
	R	CTG TGT CGT CTC CAG GAC AA
<i>icam1</i>	F	CAA TTT CTC ATG CCG CAC AG
	R	AGC TGG AAG ATC GAA AGT CCG
<i>vcam1</i>	F	TGA ACC CAA ACA GAG GCA GAG T
	R	GGT ATC CCA TCA CTT GAG CAG G
<i>il17c</i>	F	GCCACAGGAGACAGCATGAAGG
	R	GCATCCACGACACAAGCATTCTG
<i>il17d</i>	F	AGGATTCCCTACGACCCTGCTCGCTT
	R	GGAGAGAAGACGGGTGTGCTCGAAA
<i>il17f</i>	F	ACGTGAATTCCAGAACCGCTCCAGTT
	R	GCTCCCTCCGAAGGACCAGGATTTC
<i>il6</i>	F	GTACTCCAGAAGACCAGAGG
	R	TCCAGTTGCCTTCTGGGAC
<i>il33</i>	F	TCCA ACTCCAAGATTCCCCG
	R	CATGCAGTAGACATGGCAGAA
<i>ifna</i>	F	GGA CTT TGG ATT CCC GCA GGA GAA G
	R	GCT GCA TCA GAC AGC CTT GCA GGT C
<i>tgfb1</i>	F	CGACCTGGGCACCATCCATGACAT
	R	GCAGTTCTCTGTGGAGCTGAAGCAATA
<i>osteopontin</i> (<i>opn</i>)	F	GCCTGTTGGCATTGCCTCCTC
	R	CACAGCATTCTGTGGCGCAAGG
<i>fgf10</i>	F	CAA CTC CGA TTT CCA CTG ATG T
	R	GCT GTT CTC CTT CAC CAA GT
<i>defb1</i>	F	AGG TGT TGG CAT TCT CAC AAG
	R	GCT TAT CTG GTT TAC AGG TTC CC
<i>defb3</i>	F	GCA TTG GCA ACA CTC GTC AGA
	R	CGG GAT CTT GGT CTT CTC TA
<i>camp</i>	F	GCT GTG GCG GTC ACT ATC AC
	R	TGT CTA GGG ACT GCT GGT TGA

<i>ang4</i>	F	CTC TGG CTC AGA ATG TAA GGT ACG A
	R	GAA ATC TTT AAA GGC TCG GTA CCC
<i>lyz1</i>	F	TGA GAC CGA AGC ACC GAC TAT G
	R	CGG TTT TGA CAT TGT GTT CGC
<i>lyz2</i>	F	ATG GAA TGG CTG GCT ACT ATG G
	R	ACC AGT ATC GGC TAT TGA TCT GA
<i>zol1</i>	F	GGA TGG TGC TAC AAG TGA TGA
	R	GTG TCT ACT GTC CGT GCT ATA C
<i>zo2</i>	F	AAT GCG AGG ATC GAA ATA GC
	R	TAG CTT CCT CTG GTG TCC TG
<i>claudin1</i>	F	TCC TTG CTG AAT CTG AAC A
	R	AGC CAT CCA CAT CTT CTG
<i>claudin3</i>	F	GGC GGC TCT GCT CAC CTT A
	R	CGT ACA ACC CAG CTC CCA TC
<i>claudin4</i>	F	TCT ACA ACC CTA TGG TGG CTT CC
	R	ACT TGG CCG AGT AGG GCT TGT C
<i>occludin</i>	F	CTA TGG AGG CTA TGG CTA TGG
	R	TAA GGA AGC GAT GAA GCA GAA
<i>ecadherin</i>	F	GTC TCC TCA TGG CTT TGC
	R	CTT TAG ATG CCG CTT CAC
<i>bcl2</i>	F	GAAC TGGGGAGGATTGTGG
	R	GCATGCTGGGCCATATAAGT
<i>fas</i>	F	GCG ATG AAG AGC ATG GTT TAG
	R	GGC TCA AGG GTT CCA TGT T
<i>fn1</i>	F	ATG TGG ACC CCT CCT GAT AGT
	R	GCC CAG TGA TTT CAG CAA AGG
<i>bmp6</i>	F	AGA AGC GGG AGA TGC AAA AGG
	R	GAC AGG GCG TTG TAG AGA TCC
<i>jun</i>	F	CGCCAAGAACTCGGACCTTC
	R	GGTCGGTGTAGTGGTGATGTG
<i>sox9</i>	F	GTG CAA GCT GGC AAA GTT GA
	R	TGC TCA GTT CAC CGA TGT CC

Genes (human)		Sequence (5'-3')
18s rRNA	F	CTTAGTTGGTGGAGCGATT
	R	GCTGAACGCCACTTGTCC
Trpc1	F	GTG ATG GCG CTG AAG GAT GT
	R	ATA GTC ACC CTT GTC GCA CG
Nfkbiz	F	CCG TTT CCC TGA ACA CAG TT
	R	AGA AAA GAC CTG CCC TCC AT